

**APPENDIX E**  
**TRAJECTORY DATA**

The table in this appendix provides information about the trajectory of MK 19 projectiles as they are influenced by various factors:

NOTE: 40-MM TP, XM918 is a reduced time-of-flight experimental ammunition.

RANGE, METERS	ELEVATION, MILS				FLIGHT TIME, SECONDS				REMAINING VELOCITY			
									M430		M385	
	M430	M385	M918	XM918*	M430	M385	M918	XM918*	FPS	MPS	FPS	MPS
0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	790	240.8	790	240.8
100	9.0	9.0	8.9	4.6	0.43	0.43	0.43	0.31	747	227.7	744	226.8
200	18.6	18.7	18.5	9.5	0.88	0.88	0.88	0.63	706	215.2	701	213.7
300	29.1	29.3	28.8	14.9	1.36	1.37	1.35	0.97	667	203.3	660	201.2
400	40.4	40.8	39.9	20.6	1.87	1.88	1.85	1.33	630	192.0	622	189.6
500	52.6	53.4	51.8	26.7	2.40	2.43	2.38	1.70	596	181.7	586	178.6
600	65.9	66.9	64.7	33.3	2.97	3.07	2.93	2.10	564	171.9	552	168.2
700	80.3	81.8	78.5	40.4	3.58	3.63	3.52	2.52	533	162.5	520	158.5
800	96.0	98.2	93.5	48.1	4.22	4.29	4.14	2.97	505	153.9	491	149.7
900	113.1	116.1	109.8	56.3	4.90	4.99	4.80	3.43	478	145.7	463	141.1
1000	131.9	135.8	127.5	65.2	5.63	5.74	5.50	3.93	453	138.1	438	133.5
1100	152.5	157.6	146.8	74.9	6.41	6.55	6.24	4.45	430	131.1	414	126.2
1200	175.2	181.9	167.8	85.3	7.24	7.42	7.03	5.00	409	124.7	393	119.8
1300	200.4	209.0	191.0	96.6	8.14	8.37	7.88	5.58	389	118.6	373	113.7
1400	228.6	239.6	216.6	108.9	9.11	9.40	8.79	6.19	372	113.4	356	108.5
1500	260.3	274.6	245.0	122.2	10.17	10.53	9.77	6.84	356	108.5	341	103.9
1600	296.7	315.3	277.1	136.7	11.34	10.53	10.84	7.53	343	104.5	329	100.3
1700	339.2	364.2	313.7	152.6	12.65	11.80	12.01	8.27	333	101.5	320	97.5
1800	390.8	426.4	356.5	169.9	14.17	13.25	13.34	9.06	325	99.1	314	95.7
1900	458.3	518.4	408.5	189.0	16.06	15.01	14.88	9.88	322	98.1	314	95.7
2000	570.1	—	477.2	210.0	18.97	17.44	16.82	10.77	324	98.8	—	—
2100	—	—	757.3	233.4	—	—	23.66	11.73	—	—	—	—
2200	—	—	—	259.6	—	—	—	12.77	—	—	—	—
2300	—	—	—	289.3	—	—	—	13.91	—	—	—	—
2400	—	—	—	323.4	—	—	—	15.18	—	—	—	—
2500	—	—	—	363.8	—	—	—	16.62	—	—	—	—
2600	—	—	—	413.8	—	—	—	18.32	—	—	—	—
2700	—	—	—	482.4	—	—	—	20.54	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—

\*REDUCED TIME-OF-FLIGHT EXPERIMENTAL AMMUNITION.

Table E-1. Comparison of direct-fire aiming data.

RANGE, METERS	REMAINING VELOCITY				ANGLE OF FALL, DEGREES				MAXIMUM ORDINATE, FEET			
	M918		XM918*									
	FPS	MPS	FPS	MPS	M430	M385	M918	XM918*	M430	M385	M918	XM918*
0	790	240.8	1100	335.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
100	750	228.6	1044	318.2	0.5	0.5	0.5	0.3	0.7	0.7	0.7	0.4
200	712	217.0	991	302.1	1.1	1.2	1.1	0.6	3.1	3.1	3.1	1.6
300	675	205.7	940	286.5	1.8	1.9	1.8	0.9	7.4	7.5	7.3	3.8
400	641	195.4	892	271.9	2.6	2.7	2.6	1.3	14.0	14.2	13.8	7.1
500	608	185.3	847	258.2	3.6	3.7	3.5	1.8	23.3	23.7	22.8	11.7
600	578	176.2	804	245.1	4.7	4.8	4.5	2.3	35.7	36.5	34.7	17.9
700	549	167.3	763	232.6	5.9	6.1	5.6	2.9	51.7	53.1	50.1	25.7
800	521	158.8	724	220.7	7.3	7.6	6.9	3.6	72.0	74.4	69.4	35.6
900	496	151.2	688	209.7	8.9	9.3	8.4	4.3	97.4	101.0	93.4	47.7
1000	471	143.6	653	199.0	10.7	11.3	10.1	5.2	128.7	134.1	122.7	62.5
1100	449	136.9	620	189.9	12.8	13.6	12.0	6.1	167.0	174.8	158.2	80.3
1200	428	130.5	590	179.8	15.2	16.2	14.1	7.2	213.6	224.9	201.2	101.6
1300	409	124.7	561	171.0	17.9	19.1	16.5	8.4	270.3	286.3	252.9	126.8
1400	391	119.2	534	162.8	21.0	22.5	19.2	9.8	339.3	361.8	315.0	156.6
1500	376	114.6	508	154.8	24.5	26.4	22.3	11.4	423.6	455.3	390.0	191.6
1600	362	110.3	484	147.5	28.4	30.9	25.8	13.1	527.6	527.9	480.8	232.7
1700	350	106.7	462	140.8	32.9	36.1	29.7	15.0	658.4	724.6	592.2	280.8
1800	341	103.9	442	134.7	38.2	42.2	34.1	17.2	828.4	931.6	731.6	337.0
1900	334	101.8	423	128.9	44.4	50.0	39.2	19.6	1065.6	1259.3	912.3	402.8
2000	332	101.2	406	123.7	53.2	-	45.3	22.4	1486.5	-	1166.1	479.9
2100	350	106.7	392	119.5	-	-	63.6	25.3	-	-	2298.7	570.7
2200	-	-	379	115.5	-	-	-	28.6	-	-	-	678.0
2300	-	-	368	112.2	-	-	-	32.3	-	-	-	806.2
2400	-	-	359	109.4	-	-	-	36.3	-	-	-	961.6
2500	-	-	354	107.9	-	-	-	40.8	-	-	-	1154.6
2600	-	-	351	107.0	-	-	-	45.8	-	-	-	1405.6
2700	-	-	352	107.3	-	-	-	52.0	-	-	-	1767.3
2800	-	-	-	-	-	-	-	-	-	-	-	-

\*REDUCED TIME-OF-FLIGHT EXPERIMENTAL AMMUNITION.

Table E-1. Continued.